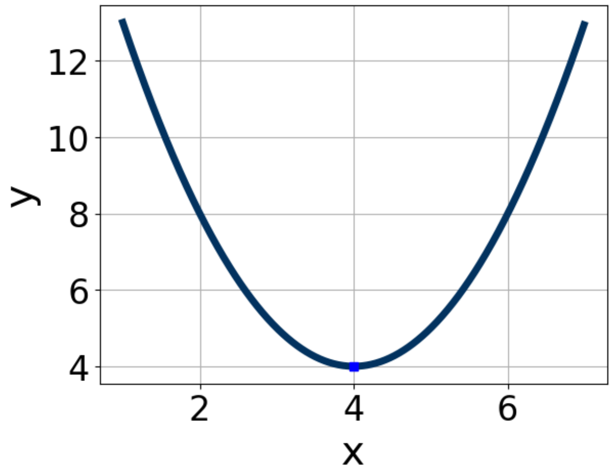
1. Write the equation of the graph presented below in the form $f(x) = ax^2 + bx + c$, assuming $a = 1$ or $a = -1$. Then, choose the intervals that $a, b,$ and c belong to.



A. $a \in [-2.5, -0.1], \quad b \in [5, 10], \text{ and } \quad c \in [-13, -8]$

B. $a \in [-2.5, -0.1], \quad b \in [-11, -6], \text{ and } \quad c \in [-13, -8]$

C. $a \in [-0.4, 2.4], \quad b \in [-11, -6], \text{ and } \quad c \in [20, 22]$

D. $a \in [-0.4, 2.4], \quad b \in [5, 10], \text{ and } \quad c \in [20, 22]$

E. $a \in [-0.4, 2.4], \quad b \in [5, 10], \text{ and } \quad c \in [11, 17]$

---

2. Solve the quadratic equation below. Then, choose the intervals that the solutions x_1 and x_2 belong to, with $x_1 \leq x_2$.

$$25x^2 + 10x - 24 = 0$$

A. $x_1 \in [-1.72, -0.86]$ and $x_2 \in [0.63, 1.34]$

B. $x_1 \in [-2.91, -2.08]$ and $x_2 \in [0.24, 0.61]$

C. $x_1 \in [-6.27, -5.37]$ and $x_2 \in [0.07, 0.26]$

D. $x_1 \in [-30.9, -29.8]$ and $x_2 \in [19.64, 20.07]$

E. $x_1 \in [-0.71, -0.21]$ and $x_2 \in [1.44, 2.11]$

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3. Factor the quadratic below. Then, choose the intervals that contain the constants in the form $(ax+b)(cx+d); b \leq d.$

$$16x^2 - 8x - 15$$

A. $a \in [3.09, 4.32], \quad b \in [-7, 2], \quad c \in [3.36, 4.31],$ and $\quad d \in [-3, 8]$

B. $a \in [7.27, 8.73], \quad b \in [-7, 2], \quad c \in [1.7, 2.33],$ and $\quad d \in [-3, 8]$

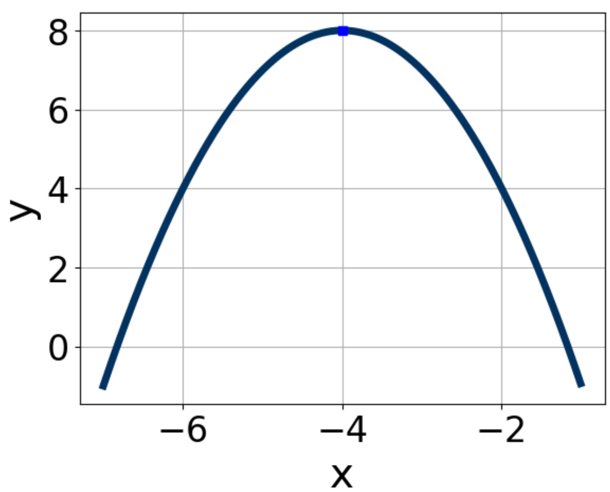
C. $a \in [0.89, 1.59], \quad b \in [-26, -15], \quad c \in [0.43, 1.16],$ and $\quad d \in [10, 15]$

D. $a \in [1.85, 2.78], \quad b \in [-7, 2], \quad c \in [7.25, 8.92],$ and $\quad d \in [-3, 8]$

E. None of the above.

---

4. Write the equation of the graph presented below in the form $f(x) = ax^2 + bx + c$, assuming $a = 1$ or $a = -1$. Then, choose the intervals that $a, b,$ and c belong to.



A. $a \in [-3, 0], \quad b \in [8, 12],$ and $\quad c \in [-9, -4]$

B. $a \in [-3, 0], \quad b \in [-11, -6],$ and $\quad c \in [-9, -4]$

C. $a \in [-3, 0], \quad b \in [8, 12],$ and $\quad c \in [-26, -22]$

D. $a \in [1, 4], \quad b \in [-11, -6],$ and $\quad c \in [22, 27]$

E. $a \in [1, 4], \quad b \in [8, 12],$ and $\quad c \in [22, 27]$

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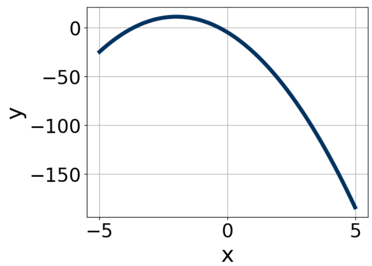
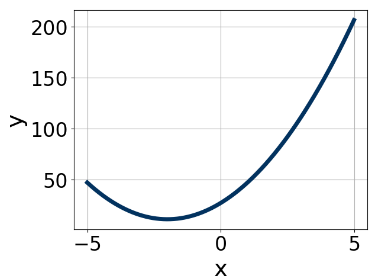
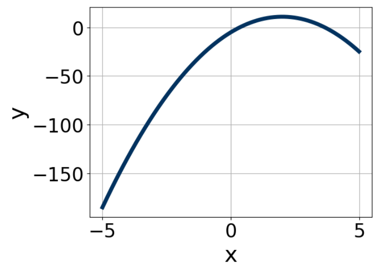
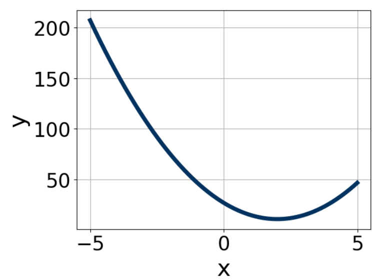
5. Graph the equation below.

$$f(x) = (x-2)^2 + 11$$

A. 

B. 

C. 

D. 

E. None of the above.

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6. Solve the quadratic equation below. Then, choose the intervals that the solutions belong to, with $x_1 \leq x_2$ (if they exist).

$$-10x^2 - 15x + 2 = 0$$

A. $x_1 \in [-19.3, -16.5]$ and $x_2 \in [16.6, 17.1]$

B. $x_1 \in [-0.5, 1.1]$ and $x_2 \in [1.3, 2.2]$

C. $x_1 \in [-3.6, -1.4]$ and $x_2 \in [-0.6, 0.6]$

D. $x_1 \in [-1.6, -0.9]$ and $x_2 \in [16.2, 16.5]$

E. There are no Real solutions.

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7. Solve the quadratic equation below. Then, choose the intervals that the solutions x_1 and x_2 belong to, with $x_1 \leq x_2$.

$$25x^2 + 60x + 36 = 0$$

A. $x_1 \in [-3.4, -1.82]$ and $x_2 \in [-0.68, -0.56]$

B. $x_1 \in [-4.42, -3.57]$ and $x_2 \in [-0.58, -0.25]$

C. $x_1 \in [-1.43, -0.68]$ and $x_2 \in [-1.26, -1.18]$

D. $x_1 \in [-6.71, -4.51]$ and $x_2 \in [-0.35, -0.02]$

E. $x_1 \in [-30.83, -29.51]$ and $x_2 \in [-30.04, -29.95]$

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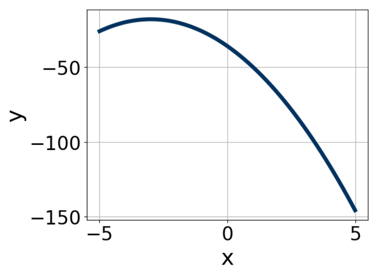
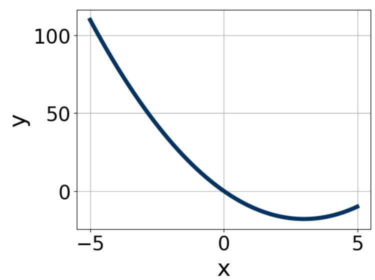
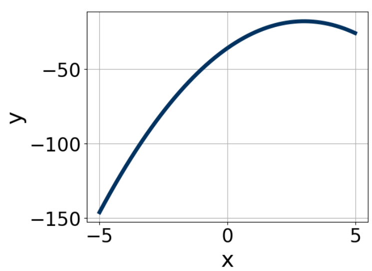
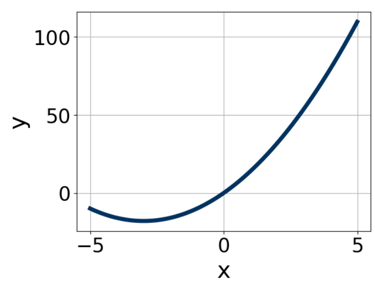
8. Graph the equation below.

$$f(x) = -(x-3)^2 - 18$$

A. 

C. 

B. 

D. 

E. None of the above.

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9. Solve the quadratic equation below. Then, choose the intervals that the solutions belong to, with $x_1 \leq x_2$ (if they exist).

$$18x^2 - 14x - 6 = 0$$

A. $x_1 \in [-25.9, -23.6]$ and $x_2 \in [24.99, 25.75]$

B. $x_1 \in [-6.8, -4.8]$ and $x_2 \in [18.51, 19.73]$

C. $x_1 \in [-2.6, -0.4]$ and $x_2 \in [-0.51, 0.31]$

D. $x_1 \in [-0.6, -0.2]$ and $x_2 \in [0.98, 1.55]$

E. There are no Real solutions.

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10. Factor the quadratic below. Then, choose the intervals that contain the constants in the form $(ax+b)(cx+d); b \leq d$.

$$36x^2 + 7x - 15$$

A. $a \in [1.2, 4.7], \quad b \in [-11, 5], \quad c \in [6.3, 8.6], \text{ and } \quad d \in [2, 5]$

B. $a \in [6.8, 9.5], \quad b \in [-11, 5], \quad c \in [1.8, 4.8], \text{ and } \quad d \in [2, 5]$

C. $a \in [26.6, 27.8], \quad b \in [-11, 5], \quad c \in [-0.9, 1.5], \text{ and } \quad d \in [2, 5]$

D. $a \in [-0.1, 2.7], \quad b \in [-24, -16], \quad c \in [-0.9, 1.5], \text{ and } \quad d \in [27, 30]$

E. None of the above.
